April 14, 1998

Ms. Patricia Brown-Derocher Regional Manager TechLaw, Inc. 20 North Wacker Drive Suite 1260 Chicago, Illinois 60606

Reference: contract No. 68-W4-00006; Work Assignment R05052

Dear Ms. Brown-Derocher:

Thank you for your April 9, 1998, regarding the Aubrey Manufacturing, Inc. facility (ILD 005 238 159) located in Union, Illinois. I have read through the provided materials and have concluded that the revised submission along with the previously provided scoring sheets will constitute the final deliverable for the facility. Please provide a copy of the final report to the appropriate IEPA and facility contacts.

Do not hesitate to call me at (312) 886-0977 should you have additional questions or need additional clarification.

Sincerely,

Gerald W. Phillips Corrective Action Process Manager Waste, Pesticides and Toxics Division

R. Young, TechLaw F. Norling, U.S. EPA





## TECHLAW INC.

PHONE: (312) 578-8900 FAX: (312) 578-8904

RZ2.R05052.01.ID.116

April 9, 1998

Mr. Gerald Phillips
U.S. Environmental Protection Agency
Region 5 D-8J
77 West Jackson Boulevard
Chicago, Illinois 60604

Reference:

EPA Contract No. 68-W4-0006; Work Assignment No. R05052: Environmental Priorities Initiative (EPI) Assessments; Aubrey Manufacturing, Inc., Union, Illinois, EPA I.D. No. ILD005238159; PA/VSI Report and NCAPS Scoring Report; Task 04 Deliverable

Dear Mr. Phillips:

Please find enclosed the Preliminary Assessment/Visual Site Inspection (PA/VSI) Report and the NCAPS Scoring Report for the above-referenced facility. The total migration score on the NCAPS is 44.29 with a ground water score of 73.08 and surface water score of 49.75 due to known releases from a former surface impoundment at the facility.

Should you have any questions or require additional information, please feel free to contact me at (312) 345-8963 or Mr. Rob Young at (312) 345-8966.

Sincerely,

Patricia Brown-Derocher

Regional Manager

Enclosure

cc: F. Norling, EPA Region 5, w/o attachment

W. Jordan/Central Files

R. Young

Chicago Central Files

c:\ehs\52\52id116.wpd

# PRELIMINARY ASSESSMENT/VISUAL SITE INSPECTION REPORT FOR AUBREY MANUFACTURING INC. UNION, ILLINOIS EPA I.D. NO. ILD005238159

#### Submitted to:

Mr. Gerald Phillips
U.S. Environmental Protection Agency
Region 5 D-8J
77 West Jackson Boulevard
Chicago, Illinois 60604

## Submitted by:

TechLaw, Inc.
20 North Wacker Drive, Suite 1260
Chicago, Illinois 60606

EPA Work Assignment No. Contract No. TechLaw WAM Telephone No. EPA WAM Telephone No. R05052 68-W4-0006 Mr. Rob Young 312/345-8966 Mr. Gerald Phillips 312/886-0977

## PRELIMINARY ASSESSMENT/VISUAL SITE INSPECTION REPORT FOR AUBREY MANUFACTURING INC. UNION, ILLINOIS EPA I.D. NO. ILD005238159

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#### I. EXECUTIVE SUMMARY

The RCRA Facility Assessment (RFA) is the first step in implementing the corrective action provisions of the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA). The purpose of the RFA is to identify environmental releases or potential releases from solid waste management units (SWMUs) and areas of concern (AOCs) that may require corrective action by the facility owner. A Preliminary Assessment/Visual Site Inspection (PA/VSI) is a form of an RFA suitable for implementing the corrective action provisions of HSWA. This PA/VSI Report constitutes the reporting requirement for the RFA at the Aubrey Manufacturing, Inc. (Aubrey) facility in Union, Illinois.

A Preliminary Assessment (PA) of the available Illinois Environmental Protection Agency (IEPA) file materials was conducted by TechLaw Inc. to become familiar with the past compliance history, evidence of past releases, potential migration pathways, potential for exposure to any released hazardous constituents, closure methods and dates, citizen complaints, manufacturing processes and waste management practices at the Aubrey facility.

A Visual Site Inspection (VSI) was conducted on November 19, 1997 by TechLaw personnel to identify and characterize SWMUs and AOCs. Additional file material was requested during the VSI and sent by Mr. David C. Dusing, project manager for ERM-North Central, Inc., contractor to Aubrey. Photographs were taken during the VSI and are documented in Appendix A of this report. The VSI field notes are included in Appendix B, and a Site Map indicating SWMU locations is presented in Appendix C.

A total of eight SWMUs and no AOCs were identified as being associated with the Aubrey facility: Former Surface Impoundment (SWMU 1), Waste Oil Accumulation Area (SWMU 2), Waste Hydraulic Oil Accumulation Area (SWMU 3), Wet Spray Paint Room #1 Hazardous Waste Satellite Accumulation Area (SWMU 4), Wet Spray Paint Room #2 Rag/ Glove Accumulation (SWMU 5), the Hazardous Waste Storage Area (SWMU 6), the Water Treatment System (SWMU 7), and the Paint Kitchen Hazardous Waste Satellite Accumulation Area. These SWMUs are described in more detail in Sections III and IV of this report.

The overall release potentials of the seven active/current SWMUs (2 through 8) are low. The Former Surface Impoundment (SWMU 1) however, presents a high release potential but is currently undergoing corrective action/closure processes required by IEPA.

#### II. SITE DESCRIPTION

Aubrey Manufacturing Inc. (Aubrey) owns and operates a manufacturing facility at 6709 South Main Street, Union, Illinois. This facility is located in the southwest quarter of Section 4, Township 43 north, Range 6 east in McHenry County. The facility is approximately 1,000 feet south of the intersection of Union Road and Northrop Road. The facility is bounded on the east by Main Street, on the south and west by corn fields and on the north by buildings and residential houses unrelated to Aubrey.

The Aubrey property consists of approximately twenty-one (21) acres of land that includes 197,000 square feet of buildings utilized for both office and manufacturing purposes. Prior to construction of the facility building around 1953, the use of the property was reported to be agricultural.

Currently, Aubrey manufactures kitchen range hoods, ventilating fans, and portable electrical heaters.

In December of 1988, Broan Manufacturing Co., Inc. (Broan) purchased the Aubrey property in an asset purchase. The business assets were then transferred by Broan to a new corporation, the present Aubrey company. Facility operations from approximately 1953 to 1985 consisted of brass, copper, and zinc electroplating where cyanides were used.

Non-hazardous, industrial waste streams existing at the Aubrey facility include the following: two Safety Kleen Units, which reportedly use non-hazardous solvents, are present at the facility, one in the tool room (Photo 1-1) and one in the maintenance shop (Photo 1-2); non-hazardous waste satellite accumulations areas include one "non-hazardous" labeled trash can in the welding room (Photo 1-3) and the dry paint room (Photo 1-19).

Current hazardous waste generation processes at the Aubrey facility include five SWMUs. A waste oil accumulation area in the plastic molding/injection room (SWMU 2) (Photo 1-4) consists of waste oils removed from the plastic molding/injection equipment, a waste hydraulic oil satellite accumulation area (SWMU 3) (Photo 1-18) within the distribution area, a satellite accumulation area within the wet spray paint room #1 (SWMU 4) (Photo 1-13) consisting of rags and gloves used during the cleaning process of the painting equipment, a satellite accumulation area within the spray paint room #2 (SWMU 5) (Photo 1-14) consisting of rags and gloves used during the cleaning process of the painting equipment, and a hazardous waste storage area (SWMU 6) (Photo 1-15).

SWMU 7 is the water treatment system within the facility which contains several different non-hazardous components. Those photographed during the VSI include: (1) the collection sump for the three stage washer (Photo 1-5), (2) the collection sump for the five stage washer (Photo 1-17), (3) the neutralization tank (Photo 1-8), (4) the phosphate tank (Photo 1-6), (5) the alkaline

June 29, 1994 - IEPA issued an operating permit (Application No. 83080035, Applicant's Designation 2101 AIR) to Aubrey to operate emission sources and/or air pollution control equipment consisting of one 3-stage washer, one dry-off oven, four paint spray booths with dry filters, one bake oven, two boilers, and one pyrolysis oven.

February 10, 1995 - Letter from the Illinois Attorney General's office to IEPA indicating that they are engaged in settlement negotiations with Aubrey regarding outstanding violations.

March 16, 1995 - IEPA conducted a compliance inquiry inspection in response to the Attorney General's letter. Inspection report identified cited violations from the January 14, 1993 inspection that could be considered resolved and violations cited during the January 14, 1993, inspection that would remain outstanding until the completion of closure activities.

April 6, 1995 - ERM Environclean-North Central, Inc. submitted a groundwater monitoring report for the first quarter of 1995 as part of the closure activities at Aubrey.

July 25, 1995 - IEPA letter to Aubrey requesting their position with respect to the apparent violations of 35 Ill. Adm. Code Part 725, Subpart H.

October 2, 1995 - Letter from Aubrey to IEPA outlining waste reduction since the implementation of the powder operation.

October 13, 1995 - ERM Environclean-North Central, Inc. submitted a "Ground Water Investigation Report" to IEPA. Report discusses the nature and extent of groundwater constituents associated with the former surface impoundment undergoing closure.

October 26, 1995 - Letter from Aubrey to IEPA explaining BOD violations as reported on discharge monitoring reports.

January 12, 1996 - ERM Environclean-North Central, Inc. submitted a "Ground Water Monitoring Report Fourth Quarter 1995" to the IEPA.

January 16, 1996 - IEPA letter to Aubrey discussing comments on the October 13, 1995 "Ground Water Investigation Report". The IEPA did not approve the closure of the surface impoundment due to exceedences of groundwater quality standards.

February 14, 1996 - ERM Environclean-North Central, Inc. submitted a letter to IEPA indicating that alternative ground water quality standards would be sought. These alternative standards were developed using risk-based evaluation processes described in the <u>Tiered Approach to Cleanup Objectives Guidance Document</u> (January 1996).

March 8, 1996 - ERM Environclean-North Central, Inc. submitted a letter to the IEPA proposing revisions/changes to the ground water monitoring program at Aubrey.

### **Environmental Setting**

The Aubrey facility is bordered on the east by Main Street, on the south and west by corn fields and on the north by buildings and residential houses unrelated to the Aubrey property. The topography is relatively flat with a gentle slope to the southeast.

A drainage ditch is located to the south and east of the Aubrey facility and acts as the principle means of surface drainage for an area that includes the Aubrey property as well as agricultural fields to the west, south and east. The drainage ditch is identified as an intermittent stream.

The geology in the area of Union, Illinois consists of Paleozoic sedimentary rocks overlain by Quaternary unconsolidated glacial materials. The Paleozoic sedimentary formations consist of Cambrian to Ordovician sandstone, limestones, dolomites, and shales. The upper most bedrock unit in the vicinity of Union consists of shales, dolomite, and dolomitic shale belonging to the Maquoketa Group.

The unconsolidated glacial deposits of southwestern McHenry County consist of older Illinoian to Early Woodfordian tills overlain by the Tiskilwa Member of the Wedron Formation. These Quaternary unconsolidated deposits in the region consist primarily of sandy clay tills containing variable amounts of small pebbles and gravel. To the northeast of the Aubrey facility, the Tiskilwa till deposits are locally overlain by fluvial sands and gravels known as the Henry Formation. The Henry Formation sediments were deposited by glacial rivers in valleys during glacial retreat.

The shallow geology at the facility consists of sandy, silty clay overlain by topsoil, fill, concrete, and/or asphalt of varying thickness. The sandy, silty clay extends to at least 68 feet below ground surface and contains minor amounts of gravel and intervals of discontinuous lenses of sand, silt, and/or gravel. The sand, silt, and/or gravel lenses vary from moderate to well sorted sand and/or silt with sharp contacts, to poorly defined intervals of gravel, sand, and silt.

The upper and lower intervals of sand, silt, and/or gravel lenses are the only water-bearing units encountered within the unconsolidated deposits beneath the facility. The direction and gradient of groundwater flow in the upper interval was identified to be in an easterly direction at an average horizontal flow gradient of 0.03 feet/feet. The direction and gradient of groundwater flow in the lower interval was determined to be to the northeast at an average horizontal flow gradient of 0.005 to 0.036 feet/feet.

ERM-Enviroclean completed a survey of private domestic potable water supply wells within a 1-mile radius and public water supply wells within a 2-mile radius of the Aubrey facility. The results of this survey indicated that a total of 33 private domestic water supply wells have been drilled within a 1-mile radius of the facility, and 20 public water supply wells have been drilled within a 2-mile radius of the facility. According to a representative of the Union Water Department, Union's water supply is primarily obtained from two primary water wells (Well

Since the 1995 groundwater report, additional soil sampling, well installation and ground water monitoring has taken place. In the July 30, 1997 Corrective Action Status Report, ERM-Enviro Clean reported that the distribution of contaminants and trends in contaminant concentrations document the presence of a single groundwater plume comprised of several smaller, overlapping plumes. The groundwater VOC plume in the upper water-bearing level extends approximately 840 feet down gradient to the unnamed intermittent stream (approximately 90 feet onto neighboring property). In the lower water-bearing level, the ground water VOC plume extends approximately 550 feet down gradient. Elevated nickel, chromium, lead and selenium concentrations have also been detected in the immediate vicinity of the former surface impoundment.

## III. SOLID WASTE MANAGEMENT UNITS

This section presents descriptions of the Solid Waste Management Units (SWMUs) identified during the PA and VSI at the Aubrey facility. Photograph numbers correspond to those presented in the Photograph Log in Appendix A.

## **SWMU 1 - Former Surface Impoundment**

**Photograph No(s).:** The former surface impoundment has been removed therefore, no pictures were taken during the VSI.

Period of Operation: Approximately 1953 to 1984

**Location:** This unit was located on the west side of the facility building.

**Physical Description:** This unit consisted of an impoundment which was initially approximately 60 feet by 30 feet by 10 feet in depth. Over 800 cubic yards of soil were removed during remediation of the unit, leaving an excavation area of 50 feet by 80 feet by 12 feet deep. At the time of the VSI, the former surface impoundment could not be viewed because the facility building has been extended over the former site of the former surface impoundment.

Wastes Managed: Plating wastes were treated and discharged to the impoundment.

**History of Releases:** In November 1992, the IEPA notified the Aubrey facility that the surface impoundment was considered a land disposal facility and must undergo RCRA closure. Closure activities identified the release of hazardous constituents from the surface impoundment. At the time of the VSI, approximately 800 cubic yards of soil had been removed and disposed. Closure of the unit had been at least conditionally approved by IEPA. The ground water is being addressed via quarterly monitoring and corrective action is being implemented.

| Potential for Past/present Release: | High     | (X) |
|-------------------------------------|----------|-----|
|                                     | Moderate | ( ) |
|                                     | Low      | ( ) |

**Conclusions:** Currently, the Aubrey facility is implementing a corrective action which has been at least conditionally approved by IEPA. It is recommended that further action be coordinated with efforts by IEPA in closing this SWMU.

## SWMU 3 - Waste Hydraulic Oil Accumulation Area

Photograph No(s).: 1-18

Period of Operation: Approximately 1988 to Present

**Location:** This unit is located in the center of the east wall of the cabinet fabrication room (Room # 401).

**Physical Description:** This unit currently consists of two containment troughs situated on sealed concrete floor space. The approximate size of this unit is 10 feet by 5 feet.

Wastes Managed: Wastes from this unit include waste hydraulic oils from facility equipment.

**History of Releases:** No releases were identified in IEPA file materials or during the VSI. According to the facility representatives, no releases have occurred from this unit.

Potential for Past/present Release: High ()
Moderate ()
Low (X)

**Conclusions:** No further action is recommended for this SWMU. No observed releases were identified during the PA/VSI. Additionally, this SWMU exhibits containment via the containment troughs and the sealed concrete beneath the troughs. Facility personnel indicated that the floor is resealed once per year.

### SWMU 5 - Wet Spray Paint Room #2 Hazardous Waste Satellite Accumulation Area

Photograph No(s):: 1-14

Period of Operation: Approximately 1988 to Present

**Location:** This unit is located in the Wet Spray Paint Room #2.

**Physical Description:** This unit is currently used as a satellite accumulation area for rags, gloves and wastes generated during the cleaning process of the painting equipment. This unit consists of one (1) 55-gallon drum.

Wastes Managed: This unit manages spent solvents and solid wastes generated during the painting equipment cleaning process.

**History of Releases:** No releases were identified in IEPA file materials or during the VSI. According to the facility representatives, no releases have occurred from this unit.

Potential for Past/present Release: High ()
Moderate ()
Low (X)

**Conclusions:** No further action is recommended for this SWMU. No observed releases were identified during the PA/VSI. Additionally, this SWMU exhibits containment via the sealed concrete beneath the drum. Facility personnel indicated that the floor is resealed once per year.

## SWMU 7 - Water Treatment System

**Photograph No(s).:** 1-5, 1-17, 1-8, 1-6, 1-7, 1-10, 1-11, and 1-12

Period of Operation: Approximately 1985 to Present

**Location:** This unit is located in the Water Treatment Area.

**Physical Description:** This area is within a concrete beamed room that has a sealed concrete floor.

**Wastes Managed:** This unit is a waste water treatment system including several components. They include collection sumps, equalization tanks, reaction tanks, a membrane system and filter press for solids removal.

**History of Releases:** No releases were identified in IEPA file materials or during the VSI. According to the facility representatives, no releases have occurred from this unit.

Potential for Past/present Release: High ()
Moderate ()
Low (X)

**Conclusions:** No further action is recommended for this SWMU. No observed releases were identified during the PA/VSI. Additionally, this SWMU exhibits containment via a concrete berm and sealed concrete floor. Facility personnel indicated that the floor is resealed once per year.

## IV. AREAS OF CONCERN

No Areas of Concern (AOCs) were identified during the PA/VSI of the Aubrey facility.

## V. <u>CONCLUSIONS</u>

At the time of the VSI, the Aubrey facility was implementing a corrective action for SWMU 1, former surface impoundment, which has been at least conditionally approved by IEPA. It is recommended that further action be coordinated with efforts by IEPA in closing this SWMU.

No further action is recommended for SWMUs 2, 3, 4, 5, 6, 7 and 8. No observed releases were identified for these SWMUs during the PA/VSI.

## VI. <u>REFERENCES</u>

- 1. VSI Field Notes, R. Gurdikian and A. Anderson, TechLaw, Inc., November 19, 1997.
- 2. IEPA, CEI/CME Narrative Report, November 20, 1992, from IEPA files.
- 3. ERM-EnvironClean North Central, Inc. Ground Water Investigation Report, October 13, 1995.

APPENDIX A
Visual Site Inspection Photograph Log

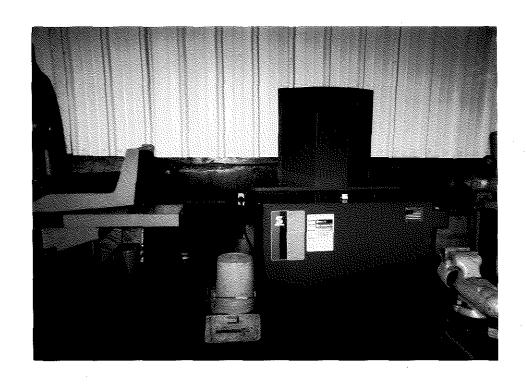


Photo No.: 1 Date: 11/19/97

Description: View of Tool Room Safety Kleen Unit.

Time: 1029 Direction: N

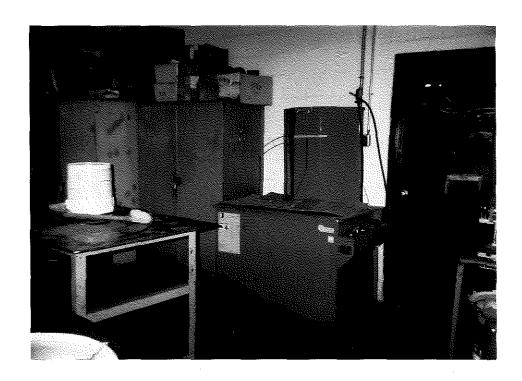


Photo No.: 2 Date: 11/19/97

Description: View of Maintenance Shop Safety Kleen Unit.

Time: 1036 Direction: E



Photo No.: 3
Date: 11/19/97
Time: 1041
Direction: S

Description: View of Non-Hazardous Satellite Accumulation Area in the Welding Room.



Photo No.: 4 Time: 1045
Date: 11/19/97 Direction: W

Description:

View of Waste Oil (SWMU 2). Note, six drums stacked above containment trough contain waste oil drained from the plastic molding/injection machines. The adjacent two-levels of drums contain new, unused oil (bottom row of drums) or are empty (top row of drums).

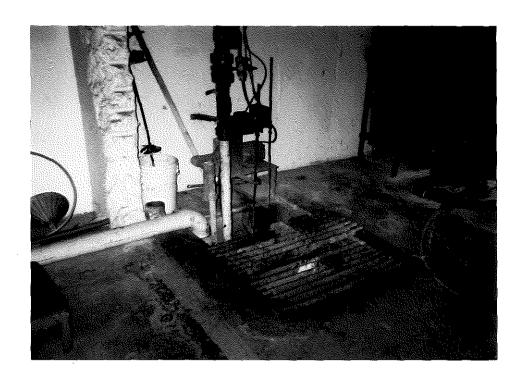


Photo No.: 5 Date: 11/19/97

Description: View of Collection Sump for Three Stage Washer.

Time: 1051 Direction: S

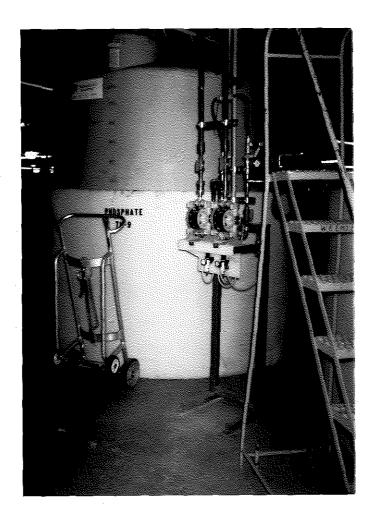


Photo No.: 6
Date: 11/19/97
Direction: SE

Description: View of Phosphate Tank of Water Treatment System. This tank is used to collect and hold concentrated phosphate wash water from the three stage washer so that the concentrated waste water can be bled into the system at an appropriate rate.



Photo No.: 7
Date: 11/19/97
Direction: SW

Description: View of the Alkaline Tank of the water treatment system. This tank is used to collect and hold concentrated alkaline wash water from the three stage parts washer so that the concentrated wash water can be bled into the system at an appropriate rate.



Photo No.: 8 Date: 11/19/97 Time: 1110 Direction: S

Description: View of the Neutralization Tank of the Water Treatment System.

This photograph did not develop due to a camera malfunction.

Photo No.: 9

Date: 11/19/97

Description: View of Water Treatment System.

Time: 1102

Direction: W

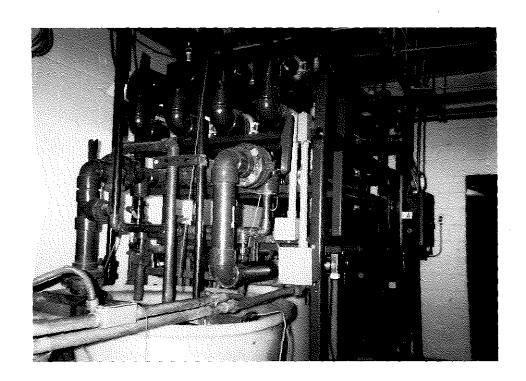


Photo No.: 10 Date: 11/19/97 Time: 1107 Direction: N

Description: View of the Membrane System of the Water Treatment System.

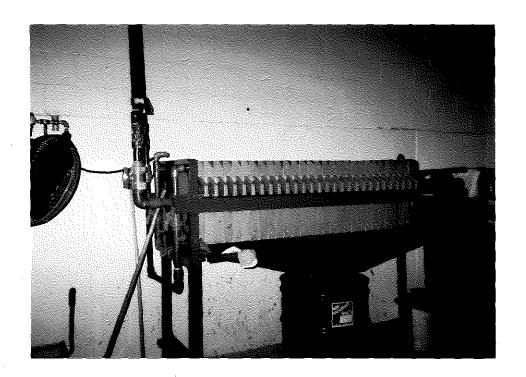


Photo No.: 11
Date: 11/19/97
Time: 1102
Direction: E

Description: View of Filter Press of the Water Treatment System. Note the drum beneath the unit collecting the non-hazardous filter cake.



Photo No.: 12 Time: 1118 Date: 11/19/97

Direction: W

Description: View of Filter Cake Satellite Accumulation Area. The four drums in this area are full of Filter Cake from the Filter Press in the Water Treatment Room.



Photo No.: 13
Date: 11/19/97
Direction: S

Description: View of Hazardous Waste Satellite Accumulation Area (SAA) in Wet Spray Room

No. 1 (SWMU 4).



Photo No.: 14 Date: 11/19/97 Time: 1127 Direction: N

Description:

View of Hazardous Waste Satellite Accumulation Area in Wet Spray Paint Room

No. 2 (SWMU 5).



Photo No.: 15
Date: 11/19/97
Direction: N

Description:

View of Hazardous Waste Storage Area (SWMU 6) where drums of both hazardous and non-hazardous wastes are staged before shipment off site. At the time of the VSI, only non-hazardous wastes were in the storage area. Note the dismantled still in the left of the photograph. The still was formerly in the Paint Kitchen when it was operational.



Photo No.: 16
Date: 11/19/97
Direction: NE

Description: View of drums labeled as non-hazardous waste. Facility representatives reported that drums were actually mislabeled and the drums contained product for the Heat

Transfer Pumps of the Chiller Units.



Photo No.: 17
Date: 11/19/97
Time: 1151
Direction: NW

Description: View of the Collection Sump of the five stage washer. The collected wash water is conveyed to the Neutralization Tank of the Water Treatment System.

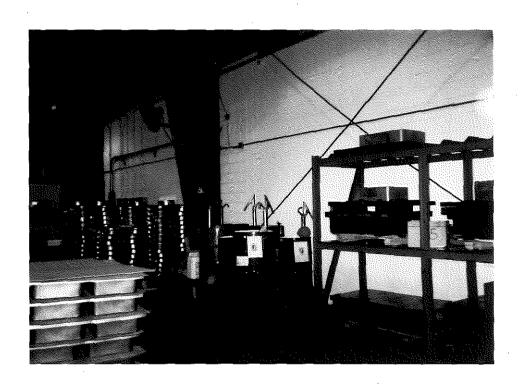


Photo No.: 18 Date: 11/19/97 Time: 1153 Direction: E

Description: View of the Waste Hydraulic Oil Satellite Accumulation in the Distribution Area (SWMU 3).



Photo No.: 19
Date: 11/19/97
Time: 1202
Direction: W

Description: View of the Dry Paint Room SAA in which Spent Dry Paint Powder is stored.

Materials are sent to an off site landfill as non-hazardous waste.



Time: 1403

Direction: W

Photo No.: 20-22 Date: 11/19/97

Description: Overview of Aubrey Plant.







Photo No.: 23
Date: 11/19/97
Time: 1404
Direction: E

Description:

View of intermittent creek across Union Road. The facility's NPDES outfall discharges filtered water from the Water Treatment System and non-contact cooling water from the facility to this creek.